SCIENCE & GOVERNMENT REPORT

26th Year of Publication

The Independent Bulletin of Science Policy

Volume XXVI, No. 12 | P. O. Box 6226A, Washington, D. C. 20015 | © July 1, 1996

Q&A: Alternative Medicine Develops a Program at NIH

Alternative medicine established a beachhead at the National Institutes of Health in 1991 when Senator Tom Harkin (D-Iowa), then Chairman of the NIH Appropriations Subcommittee, legislated the creation of the Office of Alternative Medicine (OAM) to study unconventional and so-called complementary therapies. The early years were rough, with scientific traditionalists appalled by OAM's presence in the mecca of biomedical science, while the alternative camp felt neglected and stymied. The first OAM Director, Joe Jacobs, left after two years. His successor, appointed in July 1995, is Wayne B. Jonas, MD, an alternative practitioner and researcher who is a Lieutenant Colonel in the US Army Medical Corps and former head of the Medical Research Fellowship at the Walter Reed Army Institute of Research. Jonas discussed the OAM with SGR Editor Greenberg June 10. Following is the text, transcribed and edited by SGR.

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SGR. *Many people in mainstream research and medicine look with alarm on this program, feeling it's a departure from NIH's traditions and standards.*

Jonas. Yes, I've encountered that, and I'm not exactly sure what they mean. It's kind of a mystery to me as to why individuals would not want to put some resources into investigating practices, some of which have been used for centuries, and are increasingly popular in this country.

SGR. *How popular?*

Jonas. This has been laid out in a number of surveys, the most famous of which was the David Eisenberg study in the *New England Journal of Medicine* ["Unconventional Medicine in the United States," January 28, 1993]. It showed that about a third of Americans were using alternative and complementary medicine on a fairly regular basis; that there were more visits to unconventional practitioners during the year of the survey, 1990, than there were to all primary care practitioners; and that they were spending close to $14 billion on this, the bulk of that out of pocket. That's about half of what Americans spend out of pocket for hospital care.

SGR. *How do you define alternative medicine?*

Jonas. The most widely used definition is those types of therapies that are not available in US hospitals and not taught generally in US medical schools. So, that means everything else. Unfortunately, we don't have a definition that satisfies

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Engineers Vote Overwhelmingly to Oust Academy President—P. 6

'Baltimore Case' Ends With A Blast at the Prosecution

The decade-long "Baltimore case" has finally ended with a federal panel exonerating the accused of scientific misconduct and aptly denouncing the government's Office of Research Integrity as incompetent.

The two lawyers and the one scientist who heard the case concluded that "much of what ORI presented was irrelevant, had limited probative value, was internally inconsistent, lacked reliability or foundation, was not credible or was not corroborated, or was based on unwarranted assumptions."

Hailing the outcome, and expressing bitterness over the prolonged ordeal, the science establishment and its friends vented recriminations at the investigators, the whistleblower in the case, the press, and politicians. Writing in the *Washington Post*, for example, Maxine Singer, President of the

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In Brief

Doubting the White House's claims of spartan budget plans for the post-election years, House Science Committee Chairman Robert Walker invited the chiefs of NSF, NASA, and the Office of Management and Budget to testify June 26 on the Administration's "outyear" designs for R&D. Acceptances arrived from NSF Director Neal Lane and an unspecified OMB representative; NASA's Dan Goldin accepted but begged off to a second hearing, July 17. The day before the opener, all three pleaded prior commitments. Cancelling the hearing, Walker issued a press release asking, "Who do we believe? Are the out-year numbers real?"

Walker's doubts about Clinton's deficit-cutting fervor arise from past statements by NSF, NASA and DOE officials to the effect that the long-term budget scenarios are not settled. The implicit suggestion is that a second Clinton Administration would shake loose additional funds for science and technology. A staff member on the Democratic side of the Committee commented to SGR that "the outyear issue is really heating up."

Scoffing at the "Whistleblower's Bill of Rights" recommended by the Commission on Research Integrity, Marc W. Kirschner, Chairman of the Department of Cell Biology at Harvard Medical School, told a meeting of the NIH Director's Advisory Committee last month, "Ten percent of the people who come through my lab have some problem—a mental problem, a problem with a colleague, or a problem with me." The proposal, he said, "would pander to them" and hamper research.

The full House Appropriations Committee has ok'd another big budget increase for NIH—$819 million above this year's figure, for a total of $12.7 billion.

. . . Baltimore Paper Is 'Rife With Errors,' Board Says

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Carnegie Institution of Washington, described the case as "an American tragedy" and denounced the investigatory process as "unduly responsive to political pressure."

Absent from the hub-bub of intense commentary was recognition that many leaders of science unthinkingly helped nurture this monstrous case by consigning the policing of scientific misconduct to bureaucratic drones and by pooh-poohing the fraud issue in general as a fantasy of failed scientists and opportunistic politicians and journalists. Even today, the savants are wrangling over whether there's a real problem and how scientific misconduct should be defined.

The Baltimore case officially ended on June 21 when the Departmental Appeals Board of the Department of Health and Human Services released a decision rejecting all 19 charges of misconduct against Thereza Imanishi-Kari, a Tufts University immunologist who collaborated with Nobelist David Baltimore on a paper published in *Cell* in 1986.

Baltimore was not accused of any misdeeds. But because of his renown, his name stuck to the case when he came to the defense of his co-author, whose academic advancement and research support were blighted by the misconduct findings that have now been ruled unproven.

Baltimore Decision on the Internet

http://www.os.dhhs.gov Click on HHS Agencies, Office of the Secretary, Departmental Appeals Board

Baltimore, however, paid a price, too, stepping down from the presidency of Rockefeller University in 1992 after 18 months in the job. Some say he was pressured out by faculty and trustees who feared his link to the notorious case would handicap Rockefeller in the NIH grants derby.

Commencing in 1986, when Margot O'Toole, a postdoc in Imanishi-Kari's lab, raised questions about the research underlying the *Cell* paper, the case proceeded to fester on for years as O'Toole underwent a transformation from polite skeptic to determined whistleblower. Feeling that her concerns were ignored by her academic mentors, she eventually teamed up with NIH's two self-styled monitors of scientific ethics, Ned Feder and Walter Stewart.

In 1989, as the case gained prominence, NIH Director James Wyngaarden chastised Baltimore in a letter stating that he and his coauthors should have met to reexamine the data. "Such an analysis ... followed by appropriate action to correct such errors of oversight, may well have made a full investigation unnecessary," Wyngaarden wrote.

The official fraud shop, then attached to NIH and called the Office of Scientific Integrity, rapped the authors for sloppiness, but reported no misconduct. O'Toole responded with charges of a coverup involving, she said, fabrication of lab notes and records to deceive the investigators.

The case made it to Capitol Hill, where three tumultuous hearings, in 1988, 1989, and 1990, were chaired by Rep. John Dingell, feared by NIH because of his jurisdiction over its legislation. Dingell brought Secret Service forensic specialists into the case, who testified that tests of lab records corroborated O'Toole's allegations of fabrications. The Office of Research Integrity then undertook another investigation, leading, in 1994, to the 19 charges against Imanishi-Kari. She appealed, and the marathon proceedings then moved last spring to a courtroom-style hearing that involved scores of witnesses and thousands of pages of testimony and exhibits, spread over several months.

In its decision, the panel hearing the case repeatedly expressed disdain for ORI's presentation of the case, and was especially tart in dismissing the Secret Service forensic evidence as unconvincing. The panel also faulted the testimony and pre-hearing statements of whistleblower O'Toole, stating that "we question the accuracy of Dr. O'Toole's memory and her increasing commitment to a partisan stand."

The panel's report, 182 pages in length with 235 explanatory footnotes, is unrelentingly critical of ORI and its case. Also to be noted, however, is a lone paragraph that raises, but does not explore, serious questions about the quality of the *Cell* paper that was deemed free of fraud.

"The *Cell* paper as a whole," it states, "is rife with errors of all sorts"—including some that have been corrected as well as "additional errors evident on the face of the paper, some of which, despite all these years and layers of review, have never previously been pointed out or corrected."

Responsibility for these errors, the decision continues, must be shared by Baltimore, Imanishi-Kari and the other co-authors, and reviewers and editors. "While a high rate of careless errors is no defense to intentional falsification and fabrication, the presence of so many pointless mistakes at least raises a question of whether the mistakes singled out as intentional (because they arguably favor the authors) really represent conscious efforts to deceive."

The panel decided that it didn't, and thus let the authors off with a light slap for slovenliness.

ORI, with a dismal record of losses in defending findings of misconduct, was tottering prior to the Baltimore decision, and therefore invested heavily in preparation of this case. Whether ORI can survive the debacle is doubtful.—DSG

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Published by Science & Government Report, Inc., twice monthly, except once each in January, July, August, and September. Annual subscriptions: Institutions, $490.00 (two years, $840.00). Bulk and individual rates upon request. Editorial offices at 3736 Kanawha St. NW, Washington, DC 20015. Tel. (202) 244-4135. For subscription service: PO Box 6226A, Washington, DC 20015. Tel. 1-800-522-1970; in Washington, DC 785-5054. Reproduction without permission is prohibited. SGR is available on University Microfilms International. Claims for missing back issues will be filled without charge if made within six weeks of publication date. ISSN 0048-9581.

. . . Mainstream Medicine Absorbs Alternative Care

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everybody, and probably never will. If you define alternative medicine as something that's outside of the mainstream, then there will always be something that's outside of the mainstream, and there will be things that will evolve and enter into the mainstream and therefore stop being alternative.

But there's something more definitive that we can offer. There are themes and principles that flow through many but not all of these practices, that emphasize stimulation or support of healing processes as opposed to interference with physiological processes or elimination of disease categories or causes. That's a perspective that is not exclusive to complementary and alternative medicine. For example, vaccinations clearly fall in the category of the stimulation of a healing process that then allows you to be protected from a disease cause. But the interest and the emphasis are in finding those kinds of interventions that will cause autoregulation or a stimulus response or some kind of a self-healing process as a way of addressing illness and suffering. Ten years ago, most of those were clearly in the alternative camp. Now, many of them are moving out and becoming part of mainstream medicine.

SGR. *What are examples of that?*

Jonas. Many lifestyle programs are in that category. Ten or 15 years ago, there were very few cardiac rehab programs which emphasized diet, exercise, stress management and stress reduction. Any good cardiac program nowadays will have some elements of that, if not full-grown programs in that area. Previously, it was alternative medicine, outside the mainstream. And now, it's clearly something that's more available for the management of cardiovascular disease.

There was a survey in England in 1985, asking conventional practitioners what they considered "alternative." Five years later, they asked them some of the same questions, and there had been a shift. For example, there was a higher opinion of acupuncture. There's a constant flux in these areas, we would like to think depending upon scientific research, but it's not always the case. Sometimes the research has been around for a long time and now people are just realizing it. Sometimes conventional practitioners and others will accept things before there's good definitive research.

SGR. *Who are the alternative practitioners?*

Jonas. People's opinions vary about whether they want to be in or out of this. A number of chiropractors have come here, saying, "I am unconventional, or I am alternative, and I would like some research funding." Others have avoided this place, saying, "No, no, we're reimbursed in every state in the Union and licensed in every state. Therefore, we're not." Acupuncturists are intermediate, since they're licensed in somewhere between 22 and 24 states.

Naturopathy tends to be an eclectic group that uses a variety of things. I think they're licensed now in 11 states. They have three colleges which teach naturopathic type of care. You can go on: homeopathic therapists, herbalists. Massage therapists are licensed in a number of states. A number of physicians who have conventional licenses use things that aren't part of standard therapy.

SGR. *OAM is budgeted for $7.4 million this year. What do you support with that money?*

Jonas. We're an Office in the Office of the Director [of NIH] and therefore we have no granting authority. We work with the other institutes, who have grant-making authority, and we try to identify with them, and we have reviewed through them applications in these particular areas. We then provide funds from which they make the grants. So far, there are two types of grants that we've supplied money for. One is a set of pilot grants, very small—$30,000 developmental grants, and this was in an RFA [Request for Applications] that was done a long time before I came here, in which they really opened things up to any area in complementary and alternative medicine. They went through a regular review process, through the DRG [Division of Research Grants of NIH], and were funded by the National Center for Research Resources. We're just getting the final reports on those, and they're showing, as would be expected by small pilot grants, a variety of things. These were not meant to be definitive. For $30,000 you can hardly even describe what you're doing, in many cases.

I'm not sure what the hope of the original Office was at the time they awarded those grants. But my hope for it now is that these folks will generate preliminary information in many of these areas, and then can take that information, demonstrate that they can execute research in these areas, and then come back to the NIH or other funding organizations to extend and do more definitive research.

SGR. *And the current grant program?*

Jonas. Most of this is going to the second granting mechanism, and that is for centers. When I came on, there were a series of center applications in response to a second RFA to develop centers in alternative medicine research. The idea was to develop an infrastructure where there might be promising areas for research. A number of them were at very good institutions, some by individuals who had successfully executed NIH-funded research in the past. There were two centers available at that time. We funded eight more, in partnership with a number of other institutes and centers and an office. These are at medical schools, for the most part [see box on next page]. We also have a section called the Research Development and Investigation Section, and it's primary purpose is to provide technical assistance. It does not provide money, but assists people in developing projects.

SGR. *In addition to the pilot studies and the centers, what's on the agenda of your office?*

Jonas. What we're developing here is a system of terms and definitions that can help us to identify what things more fully belong in our bailiwick and what do not. For example, there are certain types of practices that clearly are identified

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. . . Reviewing Reports of Homeopathic Research

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as alternative medicine—acupuncture, for the most part. Chiropractic, for anything except low back pain, is clearly identified as alternative medicine, but in many places it would even be for low back pain, simply because it's not available and people are not referred to that, even though there's a fair amount of research on it. With something like homeopathy, it doesn't matter what it's used for. The entire system is classified as an alternative practice.

SGR. *What do the studies show about homeopathy?*

Jonas. Since the late 1970s, there's been a gradual increase of controlled-trial research in this area. In 1991, there was a review in the *British Medical Journal*. The Office has been supporting an update of this and a systematic review in these particular areas and we've helped support some of the work of a group that's identified 186 controlled trials.

SGR. *What have you found so far?*

Jonas. The 1991 study was done by J. Kleijnen, an epidemiologist who's now at the University of Amsterdam. He did a very meticulous quality evaluation of these trials, and found that overall the quality is fairly low, as to be expected, since these were often self-funded or very small studies. However, he created an evaluation system and then selected only the really top studies, the ones that he considered high quality, and out of those looked to see is there any evidence that there's something going on. And those were double-blind, placebo-controlled studies. I can't give you exact statistics, but it was something like 14 out of the 16 or 15 or 18 or something like that were all statistically positive, which surprised them. And they recommended that there be more research in that area.

SGR. *Your critics say that if a substance has been diluted to non-existence, it can't have a biological effect.*

Jonas. I think if you were to say that if I can't explain it, it couldn't exist, that this would be an awful, narrow view. It would mean that *your* rationale is the end-all for explaining everything and that science doesn't progress and the methods we have in science don't progress. I don't think that's what most people would accept. Certainly, biological plausibility is one item, and an important one, that needs to be considered whenever you're evaluating a cause-and-effect link. But there are a number of cause-and-effect criteria that epidemiologists have clearly outlined over the years that increase your probability that something is actually due to a cause-and-effect link. And biological probability is one of those, but there's a number of others—consistency of data, dose response, and several others, epidemiological evidence, magnitude of an effect, this type of thing.

SGR. *Does this apply even if nothing can be identified in the dose?*

Jonas. Well, there's a lot of things that we can identify as a dose, a lot of mind-body therapy that we don't know exactly what's going on—it's some kind of information exchange.

SGR. *Can you take refuge in the fact that there are a lot of mysteries in the world, and just leave it at that?*

Jonas. I think we have to accept, that there are a lot of mysteries in the world. Again, if we can't explain it, that's important to consider and perhaps the best approach to that is that if it seems to fly in the face of reason, then we need to have extra special and rigorous information before it's something that should be readily accepted. In other words, the research needs to be more rigorous and more extensive than would be required for something that would be easily understood and explained.

SGR. *What's the range of attitudes and responses that you encounter in the medical-school community?*

Jonas. It's everything from total enthusiasm to total skepticism. I think that the conventional medical community is becoming more interested in this area and more open to looking into and considering these areas. Most physicians recognize that modern medicine has its limitations and that there are always circumstances when it's important to be open and look for alternatives. People are willing to do that as long as it's done in a proper way.

SGR. *Can any products on the market be traced to the work that's gone on through the work of your office or similar work elsewhere?*

Jonas. Similar work elsewhere, certainly. There are a

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Centers for Research

Various center grants, in the range of $865,000 to $1 million each spread over three years, have been awarded by the Office of Alternative Medicine, starting with two in September 1994. Following are some of the recipient institutions, the principal investigators, and the publicly announced subject areas—vague in most cases.

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University of Virginia School of Nursing; Ann Gill Taylor; Pain.

Kessler Institution for Rehabilitation, Orange, NJ, and the University of Medicine and Dentistry, Newark, NJ, (co-funded by the National Institute of Child Health and Development); Samuel Shiflett; Stroke and Neurological Conditions.

Columbia University College of Physicians and Surgeons (co-funded by the Office of Research on Women's Health); Fredi Kronenberg; Women's Health.

University of Texas Health Science Center, Houston, (co-funded by the National Cancer Institute); Guy S. Parcel; Cancer.

Beth Israel Hospital, Harvard Medical School; David M. Eisenberg; General Medical Conditions.

Minneapolis Medical Research Center; Thomas Kiresuk; Addictions.

Bastyr University, Seattle; Leanna J. Standish; HIV/AIDS.

Non-Profit Pay Checks

American Psychiatric Association

In the non-profit sector, the American Psychiatric Association is a relatively small organization with big economic and political problems and generous pay for its senior staff.

The latest tax return for this APA—not to be confused with the other APA, the rivalrous American Psychological Association—is for calendar year 1994, and was filed in May 1995.

Under the heading of the five highest-paid employes, the highest compensation listed in 1994 was an unrepresentative $315,783 for Carolyn B. Robinowitz, Deputy Medical Director, who also received $11,067 in benefits and deferred compensation.

SGR was told that Robinowitz left the APA in January 1995, and that the 1994 compensation figure was above the normal range because of cash for unused leave and other terminal payments. On the APA's 1993 return, Robinowitz's compensation was reported at $198,543, plus $14,036 in benefits; her 1992 compensation was $158,408, with no benefits reported.

The salaries and benefits for other employes in the top five were as follows, for 1994, 1993 and 1992 respectively (no expenses were listed for any employe):

Melvin Sabshin, Medical Director, $230,462, $9182; $258,445, $12,174; $215,829, 0.

Jay B. Cutler, Special Counsel, $266,357, $7929; $235,485, $11,100; $193,993, 0.

Harold A. Pincus, Deputy Medical Director, $207,880, $13,776; $166,559, $16,256; $142,704, 0.

Raymond Purkis, Director of Advertising, $184,294, $5741; $175,884, $7377; $160,433, 0.

Under the heading of compensation and benefits for Officers, Directors, Trustees and Key Employes, the APA listed a variety of sums ranging from a low of $1852 for Joseph T. English of New York City when he was a trustee in 1994 to $54,750 when he was President-elect in 1992.

As APA President in 1994, Jerry M. Wiener of Washington, DC, received $16,484, while as President-elect in 1993, he received $5701. Similar ups and downs, apparently reflecting time devoted to the job, were recorded for several other trustees, with the figures ranging from $43,393 in 1994 for Joseph S. McIntyre of Rochester, NY, to $2000 each for Steven Martin Mirin, of Belmont, Mass., and Charles Lee Bowden, of San Antonio.

APA membership, which has risen slightly in recent years, consists predominantly of MDs who practice psychiatry plus about 3000 residents, for a total of 40,453 this year, an increase of about 2200 since 1994. Membership dues are $165 for the first year, rising to $540 in the eighth year. The APA staff, headquartered in downtown Washington, currently numbers 192.

In 1992 and 1993, dues and other income—mainly from publishing professional journals—totaled about $27 million, producing annual "excesses" (the non-profit term for profit) of $136,000 and $273,000 respectively. The figures for 1994 were strikingly higher—with revenues reported at $49.2 million, and expenditures at $37.6 million, for an "excess" of about $11.6 million. APA says the huge increase was attributable to sales of the newly published fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders*, the bible for the psychiatric profession as well as for psychological services beyond the medical reservation.

According to APA Special Counsel Jay Cutler, the APA devotes about 15 percent of its $26 million budget to lobbying, including, Cutler said, $1 million for the APA Division of Government Relations. The sums are modest, given the many battlefronts on which the APA is engaged in defending psychiatrists and their incomes against managed care and expansionism by non-physican providers of mental-health services.

Previously published Non-Profit Pay Checks: Howard Hughes Medical Institute, April 15; National Academy of Sciences, May 1; American Chemical Society, May 15; American Psychological Association, June 1; American Association for the Advancement of Science, June 15.

Next: The Association of American Medical Colleges

Alternative Medicine

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number of herbal products currently on the market that are the result of years of research by conventional physicians in the area of botanicals, mostly done over in Europe, because they started at least 10 years before we did. An example is the use of ginkgo, which is a herbal extract originally derived from Tibetan medicine, as part of a Tibetan medicine system, and used in Tibetan medicine for problems with aging. Research with this particular extract shows that it has a number of products in it that increase the pliability of red blood cells and appear to allow for increased pentration and delivery of blood into areas with poor circulation.

Conditions that involve atherosclerosis and poor circulation would then reasonably seem to benefit from that. A number of controlled trials have been done, most of which confirm this. That's an example of something that's now on the market. There's good research behind it that derived from an ancient tradition and has been standardized and not developed into a drug per se, but has been standardized and safety tested and is delivered as a therapeutic product, as opposed to a drug-development process which would try to isolate a single active ingredient.

SGR. *Has the skepticism about alternative medicine diminished?*

Jonas. I think so. I think that we're really in an new era of openness about these practices, and a willingness to look at them by individuals that are not advocates, which allows them to be evaluated in a more objective way and with a critical eye. I think this is what is really going to allow us to sort out the wheat from the chaff and provide what's useful to the American public and also identify what's dangerous, without having to throw the baby out with the bath water.

By Huge Margin, NAE Votes to Oust Its President

The Council of the National Academy of Engineering moved quickly last week to install an interim President following a ballot in which the membership voted, 1179-179, to remove Harold Liebowitz from the position.

Meeting on June 26, three days after the month-long mail ballot was tallied, the Council elected William A. Wulf, of the University of Virginia, to fill the interm post. Wulf, former head of the Directorate for Computer and Information Science and Engineering at the National Science Foundation, is Professor of Engineering and Applied Science in the Department of Computer Science at Charlottesville.

The overwhelming vote against Liebowitz follows months of bickering between the self-styled reform President of the NAE and the Council, which repeatedly accused him of loner tactics and disregard for the carefully nurtured relations between the NAE and its senior partner in the Academy complex, the National Academy of Sciences [SGR, June 1].

Liebowitz, who won the office in a maverick campaign last year, has vowed a fight to retain the job, which pays $270,000 a year, plus numerous perks. He's represented by the powerful Williams & Connolly law firm, but he was keeping his plans to himself last week, dodging the press.

Academy officials have told SGR that the ouster move, starting with the members' approval of a recall provision that was lacking in the bylaws, has been carefully designed by their attorneys. They seemed to have no doubt that they would prevail if it comes to a court fight.

The Council announced earlier that, at the coming annual fall meeting of the NAE, an open discussion would be held on the characteristics desired in the next President. The aim is to have a new President by December or as soon thereafter as possible.

Revision of Misconduct Rules Faces Strong Opposition

The loud crash of the Baltimore case, combined with political aversion to dictation from Washington, probably means a go-slow or a full stop in long-running efforts to revise federal regulations governing scientific misconduct.

The efforts have been proceeding on two tracks, neither of them fast: First came the inquiry and recommendations late last year of the Commission on Research Integrity, appointed, under Congressional mandate, by Health and Human Services Secretary Donna Shalala to look into a new charter for the research agencies in her Department. The outcome, after two years of hearings around the country, was the notably opaque *Integrity and Misconduct in Research: Report of the Commission on Research Integrity*, chaired by Kenneth Ryan, of Harvard Medical School.

Having evoked outrage from the National Academy of Sciences and the Federation of American Societies for Experimental Biology, the report might a priori be regarded as containing substantial merit. But much of it is a muddle, starting with a needless proposal for dropping the familiar definition of misconduct, which proscribes "fabrication, falsification, plagiarism or other practices that seriously deviate" from accepted behavior.

The Commission would replace it with windy prose defining misconduct as "significant behavior that improperly appropriates the intellectual property or contributions of others, that intentionally impedes the progress of research, or that risks corrupting the scientific record or compromising the integrity of scientific practices." The Commission would also establish a "Whistleblower's Bill of Rights" that offends the establishment as weighted in favor of troublemakers.

The Commission's recommendations, 33 in all, have been reviewed for Shalala by the Implementation Group on Research Integrity, chaired by one of the savviest biomedical hands on the Washington scene, William Raub, former Deputy Director and Acting Director of NIH, who's now Science Policy Advisor to the HHS Secretary.

The Raub committee's recommendations on the recommendations, now under study by Shalala—which means by Raub—opts for extreme caution on the definition change, calling for "broad input" from the scientific community and the public. Regarding whistleblower rights, the Raub group confessed to "mixed sentiments," and bucked the issue to the Office of Research Integrity for consideration in protective rules it's working on.

The second track on the misconduct issue runs to the White House, where a subcommittee of the National Science and Technology Council is trying to develop government-wide regulations for policing scientific misconduct. At a meeting of the Advisory Committee to the Director of NIH last month, a staff member of the NSTC subcommittee said that "it will come to closure in two weeks."

With the misconduct system in disrepute and Washington preoccupied with White House scandals, the coming election and hopes for a bit of vacation time, conditions are favorable for deeper study.

Job Changes & Appointments

At the National Science Foundation, ***Alan Tupek*** is Acting Director of the Division of Science Resources Studies, filling in for ***Kenneth Brown***, who's working on a special project prior to starting a one-to-two year temporary assignment in September at the American Enterprise Institute. ***Larry Weber***, head of NSF's Tokyo office, is returning to the Division of International Programs at NSF, and has been succeeded by ***Edward O. Murdy***, a member of the Division.

John Moore, Director of Institutional Programs in the Center for the Study of Public Choice at George Mason University, has been appointed President of Grove City College, in Pennsylvania. Moore formerly was Deputy Director of NSF.

In Print

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From the General Accounting Office (GAO):

Cholesterol Treatment: A Review of the Clinical Trials Evidence (GAO/PEMD-96-7; 107 pp., no charge), reviews meta-analyses of trials of cholesterol-lowering drugs, and concludes they are beneficial for "middle-aged white men who have high cholesterol levels and a history of heart disease." Patients at lower risk benefited less, the GAO reports. It also points out that the trials so far have included few women, elderly men and women, and minority members.

Order from: USGAO, PO Box 6015, Gaithersburg, Md. 20884-6015; tel. 202/512-6000; fax 301/258-4066.

From the Science Policy Research Division of the Congressional Research Service, part of the Library of Congress, no charge:

Alzheimer's Disease: Federal Research Programs and Public Policy (96-455 SPR; 13 pp.), presents vital statistics, patient-care costs, and federal research spending on the disease, $314 million this year by NIH—a backsliding in purchasing power following rapid growth in the 1980s. The report, by C. Stephen Redhead, says that "future funding is unclear," noting that the House Appropriations Committee is on record against earmarking funds for specific diseases, while the House-Senate conference report called for an expansion of Alzheimer's research.

The National Aeronautics and Space Administration: An Overview With FY1996 and FY1997 Budget Summaries (95-336 SPR; 26 pp.), a quick history of NASA, along with an inventory of its major installations, programs, and budgetary shrinkage to the present time. The report notes that the Administration's long-term budget plan calls for NASA's funding to decline from $13.9 billion this year to $11.6 billion in the year 2000. But it also points out what often goes unnoted about the post-election spending vows of the Clinton White House, namely, that the Office of Management and Budget has stated that NASA's "outyear numbers should not be considered final policy numbers." The report is by David Radzanowski and Stephen Garber.

Television Violence and Its Impact on Society: An Updated Overview (95-144 SPR; 34 pp.), traces the long trail of concern about violence on TV, the few findings of research on the topic, the alibis of the networks, and the feeble responses of the federal government. The report includes a chronology of alarm and response, starting in 1952, when Congressional hearings brought empty promises of self-regulation by the TV industry, and concluding in March 1996, when the industry announced plans for a program rating system. The report is by Edith Fairman Cooper and Marcia S. Smith.

The High Performance Computing and Communications (HPCC) Program: An Introduction (95-272 SPR), an updated review of Washington's spending on advanced information technologies, budgeted this year for $1.7 billion spread among nine federal agencies. Included are references to recent major studies and a brief discussion of policy deliberations centered on the appropriate federal role in developing the technologies. Glen J. McLoughlin wrote the report.

Small Business Innovation Research Program [SBIR] (96-402 SPR; 6 pp.), a rare look into a federal R&D program that has recently drawn curious if not critical Congressional interest, SBIR, which derives its revenues from a "tax" on external research expenditures by virtually all federal agencies. Starting at 1.25 percent in 1983, the SBIR slice now stands at 2 percent and is due to rise to 2.5 percent on October 1. Focused on spurring innovations by small high-tech startups, the program made 33,000 awards in its first decade, for a total expenditure of $4.7 billion. The report, by Wendy H. Schacht, notes concerns that "the set-aside redirects money authorized and appropriated for one purpose, program, or activity and places it elsewhere."

The outcomes of these expenditures have never been carefully examined.

Order through the office of a member of Congress. House switchboard, 202/225-3121; Senate, 202/224-3121. Identify the Congressional Research Service as the source of the report and cite the title and number.

From Gale Research, Inc.:

Government Research Directory: 1996-97 (592 pp., $465), ninth edition of a standard directory, with listings of 4200 US and Canadian government laboratories, research and testing facilities, medical centers, support agencies, etc. Each entry includes address, telephone and fax numbers, name of top executive, staff size, a summary of the research program, publications, etc.

Order from: Gale Research, Inc., 835 Penobscot Building, 645 Griswold St., Detroit, Michigan 48226; tel. 1-800/877-4253 or 313/961-2242; fax 313/961-6083.

In Print

Official reports and other publications of special interest to the research community

(Copies of publications listed here are available from the indicated sources—not from SGR)

From the US Department of Commerce, Office of Technology Policy:

Effective Partnering: A Report to Congress on Federal Technology Partnerships (76 pp., no charge), with a tilt toward the Clinton Administration's industrial-aid programs, a concise review of the postwar evolution of federal R&D policies, from the initial phase of building up national research resources to the growth of federal-industrial partnerships, such as the Advanced Technology Program, Small Business Innovation Research, etc. The report says that "partnerships play an important role in fostering US competitiveness" now that other nations are strong in R&D. In ideological disagreement, Congressional Republicans have cut back ATP and are looking critically at other partnership programs. The report is especially useful for its summaries of federal statutes and regulations governing federal R&D links with the private sector. Richard J. Brody was Project Director for the report.

Order from: US Department of Commerce, Office of Technology Policy, Room 4816C, Washington, DC 20230; tel. 202/482-3037; fax 202/482-4819.

From the National Science Foundation:

Characteristics of Doctoral Scientists and Engineers in the United States: 1993 (NSF 96-302; 135 pp., no charge), 11th in a biennial NSF series, this one expands on its predecessors with data on degrees earned since the first doctorate, relation of degree to employment, and reasons for changing jobs. The tables, 60 in all, cover fields of study, salaries, place of employment, citizenship, etc. R. Keith Wilkinson was Project Officer.

Order from: NSF, Division of Science Resources Studies, Arlington, Va. 22230; tel. 703/306-1130; fax 703/644-4278; also available on the World Wide Web: <http://www.nsf.gov/sbe/srs/stats.htm>.

From the National Academy of Sciences:

Engineering Research and Technology Development on the Space Station (76 pp., limited supply available at no charge), more recommendations for what to do on board the long-gestating turkey that's now called the International Space Station (nee Space Station Freedom), though construction in low orbit is scheduled to start next year, and the opportunity for changes is limited to non-existent. Nonetheless, NASA got what it paid for from the Academy—a list of engineering projects that might be accommodated on the Station for improving space operations and developing commercial technologies. These include electric power, propulsion, thermal control, life support, etc. There's also a suggestion for auctioning perhaps 15 percent of time and space on the Station for research by private firms. The report, by a committee chaired by David Bodde, of the Midwest Research Institute, recommends immediate appointment by NASA of a "rapid-response group" to determine which of its suggestions merit top priority. Paul Shawcross was Study Director for the report.

Order from: National Academy of Sciences, Aeronautics and Space Engineering Board, 2101 Constitution Ave. NW, Washington, DC 20418; tel. 202/334-2855; fax 202/334-2482.

Understanding Risk: Informing Decisions in a Democratic Society (240 pp., $39.95, plus $4 for shipping), another confrontation with the slippery issue of risk, this one spews out barrages of turgid prose about "risk characterization," explaining that it is "the outcome of an analytic-deliberative process" in which "Success also depends on deliberations that formulate the decision problem, guide analysis to improve decision participants' understanding, seek the meaning of analytic findings and uncertainties, and improve the ability of interested and affected parties to participate effectively in the risk decision process." Harvey Fineberg, Dean of the Harvard School of Public Health, chaired the committee that produced the report. Paul C. Stern was Study Director.

The Role of Scientists in the Professional Development of Science Teachers (238 pp., $37.95, plus $4 for shipping), from the Academy's Committee on Biology Teacher Inservice Programs, practical suggestions for encouraging scientists to participate in teacher-development programs. Included are descriptions, with names and addresses, of 190 programs and projects throughout the country. The Committee was chaired by Samuel Ward, of the University of Arizona. Donna Gerardi was Study Director.

Order from: National Academy Press, 2101 Constitution Ave. NW, Lockbox 285, Washington, DC 20055; tel. 1-800/624-6242 or 202/334-3313; fax 202/334-2451; orders via Internet: <http://www.nap.edu>.

From the Project for Participatory Democracy, part of the Tides Center, a California-based umbrella organization for non-profit public-interest groups:

A Guide to Citizen Law Enforcement: Fighting Environmental Crime at Facilities of the US Departments of Energy and Defense (38 pp., $2), a primer on taking legal action against the federal agencies and industrial contractors accused of environmental contamination at nuclear-weapons plants and other facilities in many parts of the US. Official estimates of cleanup costs have risen continually and now stand at a minimum of $200 billion. The *Guide* reports legal precedents, and tells how to obtain government documents and file a law suit, etc.

Order from: Richard Boone, Project for Participatory Democracy, 1226 1/2 State St., Suite 5, Santa Barbara, California 93101; tel. 805/962-1707.

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SGR Summer Schedule

The next issue of *Science & Government Report* will be published August 1, 1996.